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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,099	09/20/2001	Makoto Hasegawa	TAKIT 162	4362
23599	7590	06/04/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			SCHWARTZ, PAMELA R	
			ART UNIT	PAPER NUMBER
			1774	

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,099

Applicant(s)

HASEGAWA ET AL.

Examiner

Pamela R. Schwartz

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eb

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6,8-14 and 16-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6,8-14 and 16-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following informalities are noted:

a) In claim 2, the "an" before ammonia is confusing. Because it is just ammonia that is used, according to applicants' specification, rather than a compound of ammonia, the "an" should be deleted.

b) In claim 12, the secondary amines listed are redundant because dimethylamine, diethylamine and ethylmonomethylamine are all dialkylamines.

2. Claims 2-6, 8-14, and 16-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bower (EP 717,146). Bower discloses a wet strength resin for paper. The resin is formed from polyamidoamines, epihalohydrin, ammonia and other amines (see page 3, line 32 to page 4, line 3. The reference discloses that the amine additive will cause epoxy groups to be formed, i.e. cross-linking agent so that cross-linking may be conducted (see page 4, lines 4-50). Therefore, glycidol cross-linking agents are present because they are formed by the reactants and cross-linking will occur. The reference sets forth a ratio of epihalohydrin to amine that overlaps with the ratios instantly claimed. The amount of amine includes the quantity of ammonia. While the reference is silent with respect to the molecular weight of the resin formed and the amount of cross-linking agent. Because this type of reaction is well known in the papermaking art, it would have been obvious to one of ordinary skill in this art to determine a molecular weight and degree of cross-linking that yields the desired amount of wet strength enhancement without negatively impacting the desired liquid absorptivity of the medium. It would have been obvious to one of ordinary skill in the art to coat such a treated paper for a conventional use such as to form a coated ink jet recording

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medium. It is conventional in the art to include such an additive in the paper making slurry or as a coating or impregnant after formation of the paper. These methods are well known alternatives for treating paper and therefore each would have been obvious treatment technique to one of ordinary skill in the art. Bower specifically discloses wet-end addition of the wet strength agent on page 9, lines 3-4.

The reference does not appear to use the order of adding the components recited by claims 21 and 25. The examiner has checked applicants' specification that states that if the secondary amine or ammonia and the crosslinking agent are permitted to react first, the target compound will not be obtained. Since the method of the prior art would not include reacting the crosslinking agent to the amine compounds first, the examiner believes that the prior art method will result in formation of the target compound. Claim limitations to the process of making the compound are not dispositive of the patentability of these article claims unless the method limitation renders the article structurally distinct. Therefore, if applicants can demonstrate that the prior art method does not produce the compound as instantly claimed in claims 21 and 25, they can overcome rejection of these claims. Finally, the product of the reference will inherently be a cationic resin.

3. Claims 2-6, 8-14, 16-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (JP410147057A). The reference discloses an additive for ink jet recording papers comprising secondary amine, ammonia, and epihalohydrin monomers. The ratio of these materials is set forth and is within applicants' ranges for these materials. The reference does not disclose crosslinking

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agent, however from the state of the art, it appears that these materials will inherently form epoxy based crosslinking agents and will crosslink. The reference is silent with respect to the molecular weight of the resin formed and the amount of cross-linking agent. Because this type of reaction is well known in the papermaking art, it would have been obvious to one of ordinary skill in this art to determine a molecular weight and degree of cross-linking that yields the desired properties of high resolution and less change in hue of images formed thereon. It would have been obvious to one of ordinary skill in the art to coat such a treated paper for a conventional use such as to form a coated ink jet recording medium. It is conventional in the art to include such an additive in the paper making slurry or as a coating or impregnant after formation of the paper. These methods are well known alternatives for treating paper and therefore each would have been obvious treatment technique to one of ordinary skill in the art.

The reference does not appear to use the order of adding the components recited by claims 21 and 25. The examiner has checked applicants' specification that states that if the secondary amine or ammonia and the crosslinking agent are permitted to react first, the target compound will not be obtained. Since the method of the prior art would not include reacting the crosslinking agent to the amine compounds first, the examiner believes that the prior art method will result in formation of the target compound. Claim limitations to the process of making the compound are not dispositive of the patentability of these article claims unless the method limitation renders the article structurally distinct. Therefore, if applicants can demonstrate that the prior art method does not produce the compound as instantly claimed in claims 21 and 25, they can

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overcome rejection of these claims. Finally, the product of the reference will inherently be a cationic resin.

4. Applicants' arguments with respect to claims 2-6 and 8-14 have been considered but are moot in view of the new ground(s) of rejection. Rejections under 35 USC 112 have been reconsidered and withdrawn in view of applicants' amendments to the claims and arguments.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

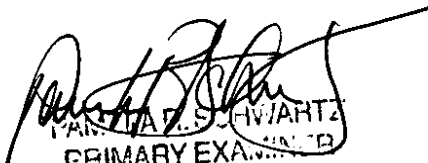
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz
June 1, 2004



PAUL H. SCHWARTZ
PRIMARY EXAMINER